REMARKS

Claim Objections

Claims 9 and 13 are objected to because the terms "fiberglass" and "naphthenic" are misspelled. This objection is moot as claims 9 and 13 have now been cancelled.

Information Disclosure Statement

The Information Disclosure Statement fails to comply with the provisions of 37 C.F.R. §§1.97 and 1.98, namely, that Form PTO-1449 was not submitted when filing the application.

Applicants regret the inadvertent omission and are submitting herewith the completed Form PTO-1449 along with a copy of the discussion of each reference cited at the time of the filing of the application. Acceptance of same is hereby respectfully requested.

Claims Rejections – 35 U.S.C. §102

Claims 1, 3, and 12 are rejected under 35 U.S.C. §102(b) as being anticipated by Cooper et al., (GB 2,165,564A).

The Office Action states, inter alia, that the apertured sheet of the reference is equated with applicants' reinforcing mat.

Applicants respectfully submit that the respective sheets are different both in structure and function for the following reasons.

With respect to structure, the references teaches an apertured sheet in which the apertures cover 10-50% of the total area of the sheet. The apertures may be round, rectangular or rhombic in shape and may be between 30 and 200 mm across. The size of these apertures indicate large holes or gaps in the sheet, the holes being 3 cm to 20 cm across.

In contradistinction, applicants claim "a solid and continuous reinforcing mat without apertures therein".

There is no congruency between the respective structures and, consequently, they cannot be equal.

With respect to function, the reference teaches that the disclosed structure provides for water vapor to pass through and escape laterally through the underlying deck. The reason for this provision is that impermeable, waterproof roofs can lead to rot, decay, and degradation of the building structure. (As an aside, since the filing date of the reference, the prior art has provided adequate ventilation by using vents, such as soffit and roof ridge vents.)

As stated above, the core layers of applicants' reinforcing mat and the apertured sheet of the reference cannot be equaled according to 35 U.S.C. §102. As a consequence, the present invention is not anticipated by the reference of Cooper et al.

Proceeding further in the analysis, applicants would like to point out the differences and similarities between the present invention and the Cooper et al. reference in regard to the rejection under 35 U.S.C. §102.

The Examiner equates the two layers of pressure-sensitive, waterproofing, bituminous compound of the reference to applicants' "adhesive layer" and "waterproof, asphalt-based adhesive layer".

Applicants readily acknowledge two facts: the pressure-sensitive, waterproofing, bituminous compound of the reference is a tacky compound which, on pressure, can adhere to materials when moderate pressure is applied to the same; and that moderate pressure applied can result in the two layers forming a waterproofing layer. However, applicants respectfully disagree that the two layers of the pressure-sensitive, bituminous compound can form a layer which is claimed by applicant. Namely, the two layers of the

reference have a core layer sandwiched between them which is apertured. Applicants do not have an apertured mat, but claim a solid reinforcing mat without apertures therein. Even if, arguendo, the reference is a solid sheet, it is only a solid sheet or sandwiched where the core layer does not have apertures therein, i.e. the non-apertured sheet is 50 to 90% of the total area of the sheet or core layer. Such apertured sheet or core layer cannot fairly be equated with or without the bituminous compound enclosing the sheet or core layer with applicants' solid reinforcing mat which is without any apertures therein.

The Examiner, in the alternative, further holds that applicants' polyolefin film can be equated to the core layer of the reference. Applicants respectfully disagree.

The polyolefin film, having a thickness of 0.5 to 5.0 mils, is not a reinforcing mat member. It is too flexible and cannot reinforce the core member of the reinforcing mat. In applicants' case it is strictly to provide an adherence to the bottom surface of said adhesive layers. A film, by definition in the art, is a thin, flexible component without reinforcing qualities.

In further discussion of the rejections, the reference carries a release sheet which is bonded to the apertured sheet and the Examiner equated this to applicant's bituminous compound adhered to the release sheet.

It is to be noted that the release sheet of applicants renders the present invention in a roll form prior to applying it to a roof deck. In the reference, however, it is preferred that the release sheet be a facing sheet in the form of a thin, low-melting polymer which may be "torched" using a gas flame or hot air so as to melt it and expose the upper surface for the application of further material. In applicants' invention the release sheet is only to prevent adhesion of the invention in a roll form. The reference appears to explain that the "torched" release sheet helps with anchoring of another waterproof layer to face the environmental conditions. The final waterproofing sheet may be a solar-reflective material, such as aluminum foil or mineral clippings. This final waterproofing sheet may be applied after the final sheet is laid. In applicants' invention all the layers in the

composite are pre-made or factory-made as opposed to the reference's process of installation.

Finally, the phrase "adapted to" has been cancelled from the claims so that a positive limitation of the functions is now denoted.

Withdrawal of the rejection of claims 1, 3 and 12 under 35 U.S.C. §102 is respectfully requested.

Claim Rejections – 35 U.S.C. §103

Claims 2, 9, 10 and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Cooper et al. (GB 2,165,564A).

As to claims 2, 9 and 11, the Examiner alleges that Cooper et al. teach the same invention as applicants except they fail to teach that the surface layer has a thickness of 0.5 to 3.0 mils, and the reinforcing mat has a basis weight of about 20 g/m^2 to 120 g/m^2. Considering that pliability relates to thickness and basis weight, the Examiner holds that it would have been obvious to optimize these characteristics to provide sufficient strength and flexibility in the final product.

As to claim 10, the Examiner holds that Cooper teaches an apertured mat or reinforcing mat which can be a polyester film (polyethylene terephthalate).

Applicants respectfully disagree with this holding for the following reasons.

In a rejection under 35 U.S.C. §103, it is fundamental that all elements recited in a claim must be considered and given effect in judging the patentability of that claim against the prior art. See In re Geerdes, 491 F.2d 1260, 1262-63, 180 USPQ 789, 791 (CCPA 1974). Claims 2, 9 and 10 are dependent claims of generic claim 1, further limiting claim 1 by some particular characteristics. Claims 2, 9 and 10, accordingly, must be considered with claim 1, and not by themselves individually. Claims 1 has been discussed above in

connection with the rejection under 35 U.S.C. §102, establishing that Cooper et al. do not teach the same invention. In particular, it was pointed out that the reference teaches a reinforcing mat with apertures therein which applicants do not have or claim. The use of the aperture reinforcing mat is taught to allow water vapor to pass through the deck and allow it to pass laterally. Both the structure of the apertured mat and the purpose of its use are different from the reinforcing mat and the purpose of its use in the present invention. As is well-known, in order to equate a prior art teaching with the claims of an application, either the structure of the prior art or the object to achieve thereby must be the same. In the present case both the structures and the object are different, i.e. not equitable.

Withdrawal of the rejection of claims 2 and 9-11 under 35 U.S.C. §103 is respectfully requested.

Claims 4-6 are rejected under 35 U.S.C,. §103(a) as allegedly being unpatentable over Cooper et al. in view of Stierli (U.S. Patent No. 4,442,148).

Stierli discloses a three layer waterproofing laminate: a) a self-adhesive oil containing thick bituminous layer 1; (b) a thin support sheet of a polyethylene film covering a surface of the bituminous layer 3; and c) an oil impermeable polymeric barrier.

The oil impermeable polymeric barrier can be polyvinyl acetate, polyvinyl chloride, polyacrylamide, caserin, alpha protein, zein, cellulose polymers such as hydroxypropyl methyl cellulose, and neoprene rubber. [Column 4, lines 9-13]

Applicants in claims 4-6 do not claim such oil impermeable polymeric barrier, and do not claim the listed polymeric barrier.

As to the thin support sheet of the reference, the reference does not teach or suggest the six layer combination (the seventh layer is a release sheet) of the present invention. A case of obviousness is established by showing that some objective teachings or suggestions in the applied prior art taken as a whole and/or knowledge generally

available to one of ordinary skill in the art would have led that person to the claimed invention, including each and every limitation of the claims, without recourse to the teachings in appellants' disclosure. See generally In re. Oetiker, 977 F.2d 1443 at 1447-48, 24 USPQ2d 1443 at 1446-47. The prior art as applied must be such that it would have provided one of ordinary skill in the art with both a suggestion to carry out appellants' claimed invention and a reasonable expectation of success in doing so. See In re Dow Chemical Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988). "Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure". Id.

Going further in evaluating the reference as allegedly relating to the Cooper reference, applicants would like to point out that the high density polyethylene incorporated in the Cooper construction of the layers would not support the holding of obviousness because the Cooper self-adhesive bituminous layer is not disclosed by Cooper to have oil in it. There would be no purpose to incorporate an oil barrier film in the cooper construction. Even if that incorporation would have been done by applicant, it would not have produced a more stable and thermally more stable sheet which applicant now claims.

For the above-stated reasons, withdrawal of the rejection of claims 4-6 under 35 U.S.C. §103(a) over Cooper et al. in view of Stierli is respectfully requested.

Claims 7-8 and 13-15 are rejected under 35 U.S.C,. §103(a) as being unpatentable over Cooper et al. in view of Walther et al. (U.S. Patent No. 6,319,969).

As stated by the Examiner, Cooper fails to teach a pressure-sensitive and bituminous compound adhesive that is claimed by applicant. For that reason the Examiner cites Walther who, allegedly, discloses such a compound which would be useful in applicants' composition. As a first observation by applicant, the Walther et al. disclosure is directed to sound management which is not in the class of art of waterproofing laminate in the production or use of a self-adhering, multi-layer composition membrane for sealing a substrate. The object of the Walther et al. invention does not coincide with that of

applicants' claimed invention. There is no suggestion in the reference that the invention disclosed in the reference could be used in applicants' claimed invention. While the Examiner's combining the Cooper and Walther references is commendable it does not satisfy the two criteria for combining reference, namely that the combination of the references would produce applicants' invention and that the object of the respective references would result in achieving the goal of the present invention.

In referring to the Walther reference, applicants would like to note the following in relation to the rejection of claims 7, 8, 13 and 15, particularly as pointed out by the Examiner in column 21, lines 53-64:

> "The disclosed compositions are advantageously amenable to a wide range of fabricating techniques for the production of economic sound management articles. They may be manipulated, by adjusting the amounts and types of components, such that they are easily molded. The compositions disclosed according to the present invention can be fabricated into films, including blown films, sheets, moldings, foam sheet, foam plank, expandable and foamable particles, moldable foam beads, and injection molded articles by conventional processes. The compositions can also be used in the manufacture of fibers, foams and lattices, as well as adhesive and sealant formulations."

As shown in this paragraph, the composition is directed to sound management which has no relation or reference to waterproofing laminates used as roof shingles.

Column 1, lines 35-40 state:

> "These materials offer a wide range of material structures and properties that make them useful for varied applications. Examples of useful applications for these substantially random interpolymers include their use as asphalt modifiers or compatibilizers for blends of polyethylene and polystyrene, as described in U.S. Pat. No. 5,460,818. Also, materials containing .alpha.-olefin/vinyl or vinylidene substantially random interpolymers display good elastic properties and energy dissipation capacities, and thus are also useful in adhesive systems, as described in U.S. Pat. No. 5,244,996."

The above passage shows that the composition can be used as an asphalt modifier, and because it displays good elastic properties and energy dissipation capacities, it is useful in adhesive systems. Thus, the passage is a prediction for the use in asphalt compositions requiring certain properties. However, no specific properties are mentioned, such as waterproofing properties, which compositions are directed to sound barrier properties and nothing else. The present invention is not directed to such sound barrier properties.

Nothing in specific would help an inventor to devise its composition based on the following in column 2, lines 41-44:

> "The composition still further comprises, in addition to the interpolymer, an organic acid. They composition may also comprise a processing agent, a filler, or both, as well as other additives."

Column 2, lines 41-53 states:

> "In additional embodiments, the present invention provides a process for making the disclosed compositions. In still other embodiments, the present invention provides products made from the disclosed compositions, and products made by the disclosed processes. Further additional embodiments provide sound management compositions fabricated with the disclosed compositions and according to the disclosed processes."

As shown above, the Walther invention relates to sound management, it does not relate to a waterproofing laminate.

Column 1, lines 65-67 states:

> "Acceptable polymers to blend with the claimed interpolymers include styrenic homopolymers and copolyers...".

Claim 45 states:

> "The sound management article of claim 27, wherein said filler is selected from the group consisting of alumina trihydrate, magnesium hydroxide, calcium hydroxide, talc, calcium carbonate, limestone, glass fibers, marble dust, cement dust, clay, feldspar, silica or glass, fumed silica, alumina, magnesium oxide, antimony

oxide, zinc oxide, barium sulfate, aluminum silicate, calcium silicate, titanium dioxide, titanates, glass microspheres, chalk and mixtures thereof."

Column 12, lines 45-60 states:

"One of the advantages of the disclosed compositions is their ability to maintain desirable fabrication characteristics with very high filler levels. In addition to blending the interpolymers of the present invention with less expensive polymers, formulating cost efficient compositions is also aided by the use of fillers. The attainment of filler loadings of approximately 50 percent by volume, and above, while maintaining adequate mechanical properties is favorable to the formulation of economical compositions, and results in compositions particularly useful for sound management applications. Addition of an organic acid improves dispersion of a filler in the composition, and thus further facilitates achieving preferable filler loading levels in an economical manner. Points of novelty in the presently disclosed compositions include their capacity to be highly filled and for the filler to be evenly dispersed via the use of an organic acid."

Column 18, lines 38-52 states:

"Oils may also be used in the compositions of the present invention to manipulate the characteristics of the composition. Commercial oils generally contain a range of components where the composition of the oil is reported as a percentage of napthenic, parafinic and aromatic oil. Suitable oils include virtually any known oil, including naphthenic, parafinic and aromatic oils, further including, for example, mineral oils and natural oils. Oils are generally characterized by their flashpoint and composition. According to their classification and flash point, one skilled in the art can select the oil or combination of oils that will best achieve the desired characteristics in the compositions of the present invention. Preferred oils include those commercialized under the names Shellflex.TM. 6371, Shellflex.TM. 6702, and Shellflex.TM. 2680."

Column 6, lines 65-67 states:

"...Exact polymers (a trademark and product of Exxon Chemical), very- or ultra-low density polyethylenes (VLDPE or ULDPE) such as Enichem's Clearflex.TM., styrene-butadiene random co-polymers (SBR) or (SBS) or styrenic block polymers"... may be used.

As shown above, none of the above passages relate to any other use but for providing a sound barrier composition, and a disclosure that pressure-sensitive compositions relate to a composition with which the use of that composition can achieve sound barriers. The general disclosure, although might relate to a pressure-sensitive

asphaltic composition, does not specify sufficiently enough to be helpful to a person skilled in the art for use in applicants' invention.

Even if, arguendo, such pressure-sensitive composition could be used in applicants' invention, incorporation of the same in Cooper's structure which requires a discontinuous perforation in the supporting layer, would not produce applicants' invention.

The Office Action suggests using the Walther et al. composition as the adhesive in the composite of Cooper et al. The Office Action, in support of the proposition that such replacement involves only routine skill in the art, cites In re. Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Applicants respectfully submit that such substitution/replacement is not suggested by the Walther et al. reference. It is the Examiner suggesting such substitution/replacement. Reviewing courts have repeatedly cautioned against employing hindsight by using the applicant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. See, e.g., Grain Processing Corp, v. American Maize-Products Co., 840 F.2d 902-907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988). From Applicants' perspective, the Examiner's rejection appears to be premised on impermissible hindsight reasoning.

Regarding In re. Boesch cited by the Examiner, applicants respectfully submit the following.

The case involved the patentability of a nickel based alloy consisting of eight metal components. Two prior art patents taught nickel-based alloys consisting of the same metals. The compositional limits of alloys in the reference essentially overlapped those claimed in Boesch. The elements in Boesch's alloy are balanced to provide an Nsubv (average electron vacancy concentration per atom in the matrix of the alloy) value not in excess of about 2.35. Boesch tested only one example of his single alloy within the broad range claimed. The Board found this not sufficient to support unexpectedness. In addition, Boesch was aware of an article ("Pauling's theory) which expressly suggested the kind of experimentation necessary to achieve the claimed composition. This express

suggestion prompted the Board to hold that discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art.

In the instant case the facts are different from those of the In re. Boesch case. The instant case claimed six layers (not counting the seventh layer which is a release film) of a composite membrane.

One of the layers is the asphalt-based adhesive layer. Substituting the Walther et al. asphalt-based adhesive in the Cooper et al. construction does not produce applicants' claimed invention.

For the above-stated reasons, withdrawal of the rejection of claims 7, 8 and 13-15 under 35 U.S.C. §103(a) as being unpatentable over Cooper et al. in view of Walther et al. and Stierli is respectfully requested.

Respectfully submitted,

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